

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 5 (currently amended): A storage system for extracorporeal storage of an organ, said storage system comprising:

an organ perfusion chamber for storing an extracorporeal organ, said organ perfusion chamber having a wall with connectors for connecting to said extracorporeal organ;

~~a vitality-preserving fluid circuit for circulating a vitality-preserving fluid through said extracorporeal organ stored in said organ perfusion chamber, said vitality-preserving fluid circuit including~~ that includes a dialysate circulation system that circulates a dialysate for dialyzing said a perfusate and a perfusate circulation system that circulates a perfusate for perfusion of said extracorporeal organ said perfusate through said extracorporeal organ stored in said organ perfusion chamber;

a storage fluid that is stored in said organ perfusion chamber, said storage fluid being said dialysate; wherein said organ perfusion chamber also serves as a reservoir for said dialysate, said dialysate flowing from said organ perfusion chamber into said dialysate circulation system; and

a protective cover in said organ perfusion chamber that encloses said extracorporeal organ within a space defined by said protective cover and a portion of said wall of the said organ perfusion chamber with said connectors, wherein said protective cover provides a complete barrier between said organ and said storage fluid;

wherein said organ is maintained by said storage fluid in a floating suspended state inside said protective cover and, except for said portion of said wall with said connectors, is completely surrounded by said storage fluid.

Claim 6 (previously presented): The system of claim 5 further comprising a temperature control device for controlling temperature of said storage fluid in said organ perfusion chamber.

Claim 7 (previously presented): The system of claim 6, wherein said temperature control device is a heating mat.

Claim 8 (previously presented): The system of claim 6, said organ perfusion chamber having a wall and wherein said temperature control device is integrated into said wall.

Claim 9 (previously presented): The system of claim 8, wherein the temperature control device comprises temperature-control loops embedded into said wall of said organ perfusion chamber.

Claim 10 (previously presented): The system of claim 5, wherein said organ perfusion chamber is hermetically sealed against fluid and pressure.

Claim 11 (currently amended): The system of claim 5, wherein said protective sack cover is an impermeable plastic bag.